

Appl. No. 09/698,970
Armdt. Dated 11/11/2004
Reply to Final Rejection of 07/28/2004

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Listing of Claims

Claim 1 (currently amended) A method for establishing a reliable communication between two points in a mobile wireless network, wherein said first point comprises a first mobile wireless node and said second point comprises a plurality of mobile wireless nodes, and said first node cannot directly reliably communicate with any one of said plurality of nodes at said second point, said method comprising the steps of:

creating a neighbor list by each of said plurality of nodes at said second point;

transmitting a an alert request probe signal from said first node to said plurality of nodes at said second point;

if none of the nodes at said second point can reliably receive the alert request probe signal, forming a receive group, in reaction to receiving said probe, consisting of at least some of said plurality of nodes at said second point and based on the created neighbor lists and the received probe's signal quality;

choosing a controlling node from said receive group; and

receiving at said receiver group, under the control of said controlling node, subsequent signals transmitted by said first node;

transmitting a communication signal from the first node to the second node;

receiving by each member of said receive group the communication signal;

passing by each member of said received group a representation of the received communication signal to said controlling node; and

combining by said controlling node the representations of the communication signal to create a reliable communication signal.

Claims 2-9 (cancelled)

Claim 10 (currently amended) The method of claim 9 1 wherein the step of transmitting said subsequent signal comprises further comprising the steps of:

transferring representations of said a copy of a second subsequent signals communication signal from said controlling node to each member of said receive group;

transmitting said representations of said second subsequent signals by each member of said receive group said second communication signal to said first node; and

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combining said representations of said second subsequent signals at by said first node received representations of said second communication signal thereby establishing creating a second reliable communication signal.

Claims 11-16 (cancelled)

Claim 17 (original) A method for operating a mobile wireless communication network comprised of a first plurality of mobile wireless nodes at a first point, a second plurality of mobile wireless nodes at a second point, wherein no two nodes between said first and second points can directly reliably communicate, wherein a subset of said first plurality of nodes have formed a first dynamic group consisting of a first controlling node, and wherein a subset of said second plurality of nodes have formed a second dynamic group consisting of a second controlling node, said method whereby said first controlling node reliably passes data to said second controlling node comprising the steps of:

passing a first representation of data from said first controlling node to each member of said first dynamic group;

transmitting said first representation of data from each member of said first dynamic group to said second point;

receiving said transmitted data at each member of said second dynamic group;

passing second representations of said data received by each member of said second dynamic group to said second controlling node; and

combining said second representations at said second controlling node to create a reliable signal.

Claim 18 (cancelled)

Claim 19 (currently amended) A method for establishing reliable communications between a first point and a second point in a wireless network, wherein said first point includes an originating mobile wireless subset and said second point includes a plurality of mobile wireless subsets, said method comprising the steps of:

creating a neighbor list by each subset at said second point;

based upon said neighbor lists, forming a group consisting of a controlling subset and other subsets at said second point to receive and transmit data communication messages between said originating subset and said second point; and

receiving by each member of the group a communication message transmitted by said originating subset and destined for said second point;

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forwarding by each member of the group to a controlling subset of that group all messages received from said originating subset destined for said second point a representation of the received communication message;

combining said representations of said message at said controlling subset to create a reliable communication message;

forwarding by the controlling subset to each member of the group a copy of a second communication message to be transmitted from said second point to said originating subset; and

combining by said originating subset received representations of said second communication message.

Claims 20-24 (cancelled)

Claim 25 (new) A method for establishing reliable communications between two points in a mobile wireless network, wherein said first point comprises a first mobile wireless node and said second point comprises a plurality of second mobile wireless nodes, said method comprising the steps of:

transmitting an alert request probe signal from said first node to said plurality of second nodes to determine if at least one of the second nodes can reliably receive the alert request probe signal;

if none of the second nodes at the second point can reliably receive the alert request probe signal, the second nodes forming a receive group comprising at least some of said second nodes and choosing a controlling point node in the receive group;

transmitting by the controlling point node a response probe signal to the first node at the first point informing the first node to proceed with the communication to the second nodes at the second point; and

collecting by the controlling point node the communications received by the second nodes in the receive group and combining the collected communications by the controlling point node to create a reliable signal at the second point.

Claim 26 (new) The method of claim 25 further comprising:

nodes at the first point forming a group with the first node if the first node can not reliably receive the response probe signal from the controlling point node at the second point with the first node acting as the controller node for the group at the first point.

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Claim 27 (new) The method of claim 25 wherein the step of the controlling point node at the second point transmitting a response probe signal comprises the controlling point node causing all of the second nodes in the group to transmit the response probe signal.

Claim 28 (new) The method of claim 25 further comprising forwarding by the controlling point node to each of the second nodes in the receive group a message to be transmitted from said second point to said first mobile wireless node;

transmitting by each of said second nodes in the receive group said message; and

combining by said first mobile wireless node the messages from each of said second nodes in the receive group.